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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,171	05/09/2005	Christopher Gray	2002P84041WOUS	5185

7590 07/28/2005

Siemens Corporation
Intellectual Property Department
170 Wood Avenue South
Iselin, NJ 08830

EXAMINER

VERDIER, CHRISTOPHER M

ART UNIT	PAPER NUMBER
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3745

DATE MAILED: 07/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/509,171	Applicant(s) GRAY, CHRISTOPHER	
	Examiner Christopher Verdier	Art Unit 3745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 September 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 9-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-13 and 15-17 is/are rejected.
- 7) ☒ Claim(s) 14 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 September 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>9-23-04</u> . | 6) <input type="checkbox"/> Other: _____ |

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Receipt and entry of Applicant's Preliminary Amendment dated September 23, 2004 is acknowledged.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the confronting ends of the impingement portions being beveled in a complementary way to the chevron-shaped rib (claim 14), and the apertures in or adjacent to the or each end wall (claim 17) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will

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be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "S" (paragraph 18, last line). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because it is replete with clerical errors too numerous to mention in all instances. The following are several examples of defects. The specification should be carefully proofread for additional defects. Appropriate correction is required.

In paragraph 2, line 2, "Stator" should be changed to -- stator --.

In paragraph 3, line 2, "Operation" should be changed to -- operation --.

In paragraph 12, line 1, "Chordal" should be changed to -- chordal --.

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Examiner's Suggestion to Claim Language

The following is a suggestion to improve the clarity and precision of the claims:

In claim 17, line 3, "the blade" may be changed to -- a blade --.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 17 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claim 17, line 2 recites "to exit the sections". It is unclear what element in the claims "the sections" refers to.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 9-13 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent 61-49,102. Note the turbine component comprising a hollow airfoil 1, a chordwise extending rib 3 arranged on the interior surface of the hollow airfoil, a first impingement tube portion 2, and a second impingement tube portion 4, with the first impingement tube portion and

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the second impingement tube portion extending spanwise through the airfoil and having confronting (i.e. facing each other) ends near the rib. The turbine component is a blade. Plural unnumbered chordwise extending ribs (see figure 2) are arranged near the interior surface of the airfoil and are provided in addition to the rib that locates the confronting ends of the first and second impingement tube portions. The rib that locates the confronting ends is discontinuous because it has a center portion with a hole there through. The rib has a chevron-shaped cross section (it is generally V-shaped) to thereby engage the confronting ends of the first and second impingement tube portions. The confronting ends of the first and second impingement tube portions inherently have end walls there across.

Claims 9-12 and 15-17 (as far as claim 17 is definite) are rejected under 35 U.S.C. 102(b) as being anticipated by European Patent 990,771. Note the turbine component comprising a hollow airfoil 10, a chordwise extending rib 32 or 46 arranged on the interior surface of the hollow airfoil, a first impingement tube portion 48 (the upper portion in figure 2), and a second impingement tube portion 48 (the lower portion in figure 2), with the first impingement tube portion and the second impingement tube portion extending spanwise through the airfoil and having confronting (i.e. facing each other) ends near the rib. The turbine component is a blade or a vane. Plural chordwise extending ribs 32 or 46 are arranged near the interior surface of the airfoil and are provided in addition to the rib that locates the confronting ends of the first and second impingement tube portions. The rib 46 that locates the confronting ends is discontinuous at 50. The rib 32 has a lip-shaped cross section to engage the confronting ends of the first and second impingement tube portion. The confronting ends of the first and second impingement

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tube portions inherently have end walls there across. Unnumbered apertures are provided adjacent each end wall allowing cooling air to exit the impingement tube portions and impinge on the inner surface of the blade or vane near the mid-height region thereof.

Prior Art

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yu and Manzoori are cited to show impingement inserts with endwalls.

Brockmann is cited to show a turbine blade with ribs therein.

Allowable Subject Matter

Claim 14 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

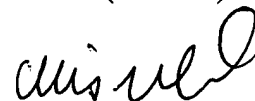
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christopher Verdier whose telephone number is (571) 272-4824. The examiner can normally be reached on Monday-Friday from 10:00-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edward K. Look can be reached on (571) 272-4820. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

C.V.
July 23, 2005



Christopher Verdier
Primary Examiner
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